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Governor Michael J. Dunleavy
STATE OF ALASKA

November 22, 2019

Mr. Daniel D. Opalski, Director
U.S. EPA Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3188

Dear Mr. Opalski:

On behalf of the Alaska Department of Natural Resources, Alaska Department of Environmental Conservation, and Alaska Department of Fish and Game, the State is disappointed by the letter that the U.S. Environmental Protection Agency (EPA) submitted on October 29, 2019, in response to the U.S. Army Corps of Engineers (USACE) Public Notice, reference number POA-2013-00396, regarding the Ambler Mining District Industrial Access Project (Ambler Road) as proposed by the Alaska Industrial Development and Export Authority (AIDEA). The Bureau of Land Management (BLM) is the lead federal agency for ensuring compliance with the National Environmental Policy Act (NEPA), and previously published a Notice of Intent to develop an Environmental Impact Statement (EIS) for the proposed Ambler Road Project on February 28, 2017. USACE is a cooperating agency for the EIS and will use the information to form its Clean Water Act (CWA) Section 404 permit decisions.

Like USACE, the State of Alaska serves as a cooperating agency with special expertise and jurisdiction, by law, and has fulfilled that role throughout the federal NEPA process. Most recently, our State regulators contributed their extensive, collective experience in managing Alaska's resources to the interagency effort by providing constructive feedback on the Draft EIS and participating in the cooperating agency discussions that have followed. The Alaska Department of Natural Resources, Office of Project Management and Permitting, also furnished a copy of the State's comments on the Draft EIS, under separate cover, in response to the USACE Public Notice. The State of Alaska encourages the EPA to review and consider its latest submitted comments, attached for reference.

The State finds fault with several issues in the EPA comment letter, regarding the:

- Least Environmentally Damaging Practicable Alternative (LEDPA) determination,
- Aquatic Resources of National Importance (ARNI) designation, and
- Effect of the CWA Section 404(q) dispute resolution process.

Although the letter was addressed to USACE, Alaska finds the EPA's assertions regarding how best to accomplish responsible development in Alaska and the agency's role in the regulatory review process, concerning enough to warrant response by the State, for reasons described in the following.

LEDPA Determination

The EPA initially declined to serve as a cooperating agency, opting to serve only in a limited capacity as a participating agency until July 2018. During the prior months, BLM and the cooperators engaged in an iterative review of the purpose and need statement and an extensive alternatives development process. Perhaps EPA would have fewer concerns had the agency chosen to participate in the early discussions on those topics, when critical decisions were being made with input from all the cooperators, as opposed to postponing its involvement until much later in the review process.

The EPA comment letter reiterates an earlier recommendation that the federal decision makers *decline* to evaluate the SF-299 permit application submitted by AIDEA:

> "The EPA recommends evaluating an access road for CWA Section 404 authorization once a mine project has been permitted, approved, and financed for development to avoid unnecessary environmental impacts and losses associated with the construction of a road solely for continued exploration activities."

These concerns reflect a critical misunderstanding about the enabling effect year-round access has on advanced mineral exploration and subsequent mine development – a misunderstanding that has now been taken up by some stakeholders ever since EPA first made its initial recommendation to evaluate the access only after a mine is "permitted, approved, and financed" by an entity other than AIDEA. EPA also appears to ignore the fact that the National Park Service (NPS), BLM, and USACE are each required by law and/or regulation to review AIDEA's application, and have accordingly continued their respective environmental reviews of the Ambler Road Project since EPA first articulated this position during scoping. Not only have the agencies previously acknowledged and determined EPA's argument to be without merit – the courts have ruled on this issue as well.

In *Alaska Survival v. Surface Transportation Board*, 705 F. 3d 1073 (2013), in which the Port Mackenzie Rail Extension was the subject of the litigation, the Ninth Circuit Court of Appeals ruled that the Alaska Railroad Corporation (ARRC), as a pseudo-State entity, could be relied upon to determine whether and when there is a need for new infrastructure in order to facilitate economic development in a region. Like ARRC, AIDEA is a public corporation of the State and was established "in the interests of promoting the health, security, and general welfare of all the people of the state, and a public purpose, to increase job opportunities and otherwise to encourage the economic growth of the state, including the development of its natural resources, through the establishment and expansion of manufacturing, industrial, energy, export, small business, and business enterprises..." Consistent with the Ninth Circuit's decision, the agencies must defer to AIDEA in assessing the need for an Ambler Mining District industrial access road.

The State anticipates that USACE will examine the practicable alternatives based on AIDEA's stated project purpose and in consideration of the above factors in determining the LEDPA under 404(b)(1).

Aquatic Resources of National Importance (ARNI) Designation

The EPA's ARNI designation includes the entire length of the Kobuk River, including the sections outside of Gates of the Arctic National Park and Preserve (GAAR) that are not classified as a wild river under the Wild and Scenic Rivers Act; the Koyukuk River; and all tributaries and adjacent wetlands, including the Nutuvukti fen. The ARNI identification signifies a new special use designation that effectively expands upon and extends the Congressionally designated conservation system units, smothering the region with unnecessary additional federal environmental protections with only an administrative agency memorandum as the basis for such action. The State of Alaska already has some of the best laws and regulations in place to protect its fish and wildlife resources. The State's Title 16 statutes will specifically come into play when issuing any permits as it pertains to both freshwater and anadromous fish. These protections will not only safeguard our environment but allow responsible development to occur. This comment by EPA is inconsistent with the Alaska National Interest Lands Conservation Act (ANILCA) and specifically with the clear Congressional intent to provide access through federally-managed areas to mineralized State lands within the Ambler Mining District provided in Section 201(4).

> "Congress finds that there is a need for access for surface transportation purposes across the Western (Kobuk River) unit of the Gates of the Arctic National Preserve (from the Ambler Mining District to the Alaska Pipeline Haul Road) and the Secretary shall permit such access in accordance with the provisions of this subsection." (ANILCA, Section 201(4)(b)).

Although Alaska falls within the boundaries of EPA Region 10, EPA frequently fails to consider the overriding effect of ANILCA and uniqueness of Alaska by applying a one-size-fits-all approach based on national standards that were developed for the contiguous United States. In other instances, where EPA Region 10 has identified ARNI associated with a major infrastructure project proposal in Alaska, the agency has used the identification to advocate for requiring additional mitigation, often in the form of compensatory mitigation in order to meet the national goal of "no net loss" of wetlands. This practice has continued despite the 2018 EPA-USACE Mitigation Sequence for Wetlands in Alaska Memorandum of Agreement, which provides guidance on wetlands mitigation requirements in Alaska and specifically identifies the need for flexibility.

The EPA comment letter states:

> "The EPA understands Alaska's desire to develop infrastructure to support industrial and economic development… [and] supports developing this infrastructure in a way that addresses the development needs of Alaskans while also safeguarding the State's exceptional natural resources."

Unfortunately, EPA's actions do not reflect the agency's professed dedication to fostering responsible development. Too often EPA has reneged on its responsibilities to use its advisory role responsibly and serve as a clarifying influence in what is often a complex and nuanced regulatory process, by introducing uncertainty inconsistent with ANILCA and the agency's own regional guidance. The State urges the agency to consider how it could better serve the public interest, including by recognizing the need for regional variability, the State's existing authorities to protect fish and wildlife, and the unique pattern of land ownership and management in Alaska.

CWA Section 404(q)

EPA is a signatory to the 2018 One Federal Decision memo, which describes how federal agencies will implement direction provided in Executive Order 13807. The State supports the efforts of most signatories to date to reduce inefficiencies and make timely decisions consistent with the intent of One Federal Decision, which serves the public interest. Alaska holds the EPA accountable for withholding information from BLM and the other cooperating agencies that could potentially delay the permitting process for the Ambler Road Project; namely the potential for EPA to designate ARNI associated with the individual permit.

In arbitrarily designating the Kobuk River, Koyukuk River, and Nutuvukti fen as ARNI – to justify initiating a dispute resolution process reserved for ensuring USACE's compliance with the CWA 404(b)(1) guidelines – EPA has introduced uncertainty to the regulatory review for *all* federal decision-makers. It further appears that EPA has done so intentionally, as a platform for articulating a policy disagreement with USACE regarding compensatory mitigation in Alaska. Such arguments belong in another arena, where misalignment between a federal advisory agency and decision-making entity do not directly create costly delays for a specific project proposal.

The EPA's failure to use NEPA and 404 processes appropriately, and the agency instead resorting to an increasingly common and seemingly casual use of the elevation process described in the 1992 CWA Section 404(q) Memorandum of Agreement for projects in Region 10 is troubling.

The State of Alaska requests that the agency withdraw the 3(a) elevation letter for the proposed Ambler Road Project, as a sign of good faith and EPA's commitment to improving its working relationship to fellow Federal agencies, and with Alaska's permitting agencies.

Sincerely,

Michael J. Dunleavy
Governor

Attachment: (1) State of Alaska POA-2013-00396 Public Notice Comments

cc: Chris Hladick, EPA Region 10 Administrator
David Hobbie, USACE Regulatory Division Chief
Joshua Kindred, DOI Regional Solicitor
Chad Padgett, BLM Alaska State Director
Don Striker, NPS Alaska State Director (acting)

THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

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October 29, 2019

John Sargent, Project Manager
U.S. Army Corps of Engineers
Alaska District, Regulatory Division
2175 University Avenue, Suite 201E
Fairbanks, AK 99709-4927

Re: OPMP Comments on Public Notice of Application for Permit, POA-2013-00396

Dear Mr. Sargent

Thank you for the opportunity to comment on the Public Notice of Application for Permit (PN), reference no. POA-2013-00396, for the Ambler Mining District Industrial Access Project (Ambler Road) published by the U.S. Army Corps of Engineers (USACE).

The Office of Project Management and Permitting (OPMP) leads the State of Alaska's (State) participation as a cooperating agency in working with the Bureau of Land Management (BLM) on development of the Ambler Road Environmental Impact Statement (EIS). We anticipate that BLM will produce a Final EIS that meets the needs of all the federal agencies rendering permit decisions, including USACE, and have recently furnished comments that will help ensure the analysis contained within the document addresses resources and/or issues where overlapping jurisdictions exist. Please refer to the State of Alaska Ambler Road Draft EIS Comments, attached.

The PN provides the Applicant Proposed Mitigation statement furnished by the Alaska Industrial Development and Export Authority (AIDEA). In addition to avoidance and minimization, AIDEA proposes a combination of onsite enhancement, offsite restoration, and possible purchase of mitigation bank credits to fulfill potential compensatory mitigation requirements.

In 2018, the Environmental Protection Agency (EPA) and Department of the Army (Army) executed a Memorandum of Agreement (MOA) concerning the mitigation sequence for wetlands in Alaska under Section 404 of the Clean Water Act. The EPA and Army hosted several agency meetings to discuss implementation of the MOA and assured the State that the new guidance would provide regulatory flexibility by addressing the following guiding principles, specific to Alaska:

a) Avoiding wetlands may not be practicable where there is a high proportion of land in a watershed or region which is jurisdictional wetlands;
b) Restoring, enhancing, or establishing wetlands for compensatory mitigation may not be practicable due to limited availability of sites and/or technical or logistical limitations;
c) Compensatory mitigation options over a larger watershed scale may be appropriate given that compensation options are frequently limited at a smaller watershed scale;

d) Where a large proportion of land is under public ownership, compensatory mitigation opportunities may be available on public land;
e) Out-of-kind compensatory mitigation may be appropriate when it better serves the aquatic resource needs of the watershed; and
f) Applying a less rigorous permit review for small projects with minor environmental impacts is consistence with the Section 404 program regulations.

The proposed Ambler Road project crosses predominately State managed land; the State has a vested interest in USACE's final determination, regardless of the outcome. Should USACE determine that additional mitigation would be required for the Ambler Road project, consistent with the agency's regulations and policies and in consideration of Alaska's uniqueness, we request the opportunity to consult with USACE on potential mitigation options and opportunities.

Please contact me directly at faith.martineau@alaska.gov or (907) 269-0949 for questions.

Sincerely,

Faith Martineau

Faith Martineau
Executive Director, OPMP

Attachments: (1) State of Alaska Ambler Road Draft EIS Comments

Ecc: Ellen Lyons, USACE Section Chief (ellen.h.lyons@usace.army.mil)
Tina McMaster-Goering, BLM Project Manager (tmcmastergoering@blm.gov)

THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

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October 29, 2019

Tim LaMarr, Field Office Supervisor
Bureau of Land Management
222 University Avenue
Fairbanks, AK 99709

Re: State of Alaska Comments on the Ambler Road Draft Environmental Impact Statement

Dear Mr. LaMarr:

The State of Alaska (State) received the Notice of Availability for the Draft Environmental Impact Statement (Draft EIS) for the Ambler Mining District Industrial Access Project (Ambler Road) published by the Bureau of Land Management (BLM) in the Federal Register. The Office of Project Management and Permitting (OPMP) coordinated with State Cooperating Agency Team members to review the Draft EIS. Our comments represent the collective technical and regulatory expertise of the:

- Department of Natural Resources (DNR)
- Department of Environmental Conservation (ADEC), and
- Department of Fish and Game (ADF&G)

Please refer to the State of Alaska Ambler Road Draft EIS Technical Comments Matrix, attached.

With assistance from the Department of Health and Social Services, these agencies have participated in the development of the Draft EIS throughout the federal National Environmental Policy Act (NEPA) process, contributing to alternatives development, providing comments during administrative review of the preliminary Draft EIS, and participating in technical working sessions on human health, subsistence, and cumulative effects. The State also attended all the public meetings and Alaska National Interest Lands Conservation Act (ANILCA) Section 810 hearings on the Draft EIS.

The project proponent, the Alaska Industrial Development and Export Authority (AIDEA), is an independent public corporation subject to State statutes and regulations. Each of the respective regulatory agencies on the State Cooperating Agency Team possesses jurisdiction by law based on the nature and/or location of activities associated with the Ambler Road project. For example, a right-of-way would be required for the parts of the road that are proposed to cross State managed lands. State agencies also regulate air and water quality, water use, and manage fish and wildlife resources on other lands, including federal land otherwise managed by BLM.[1]

[1] Our comments include forward looking statements about anticipated requirements associated with the State permitting process based on AIDEA's application for transportation and utility systems and facilities on federal lands (SF-299) and the Draft EIS. These statements should not be construed as commitments by any State agency to issue authorizations for activities associated with the Ambler Road project as currently proposed, or to adopt or not

In the Draft EIS, BLM identifies Alternatives A and B as the agency's preferred alternatives; Alternatives A and B describe road alignments that cross predominately State managed land. As further disclosed in the Draft EIS, BLM's enforcement authority is limited to an approximately 20-mile stretch of the proposed Ambler Road, where it crosses high-priority State selected lands that are currently managed by BLM. The State's priority conveyance request remains outstanding.

For all of the reasons described above, the Draft EIS inadequately considers the insight provided by State regulators and resource managers, who not only live and work in Alaska and can speak to their extensive experience regulating similar activities, but also have their own respective responsibilities to consider and address potential impacts to the human and natural environment. We request that BLM carefully consider our comments, which were, again, generated by local subject-matter-experts, and reduce reliance on references with tenuous applicability or relevance.

We anticipate and look forward to working closely with the interdisciplinary team during the final stages of the EIS development and beyond to ensure the congressional direction in ANILCA, as recognized in BLM's 1991 Record of Decision for the Utility Corridor Resource Management Plan (RMP), is fulfilled:

Congress finds that there is a need for access for surface transportation… (from the Ambler Mining District to the Alaska Pipeline Haul Road) and the Secretary shall permit such access in accordance with the provisions of this subsection. (ANILCA Section 201(4)(b)).

The Prospect unit, as identified on map 2.1 in the Proposed RMP, would not be made available for State Selection. However, as required by section 201(4)(b) of the ANILCA, the need for access to the Ambler Mining District is hereby recognized and will be provided upon application by the State of Alaska, and that Subsistence hearings under section 810 of the ANILCA may be required during the processing of the application. (Utility Corridor RMP Record of Decision, page 3).

Please contact me directly at faith.martineau@alaska.gov or (907) 269-0949 for questions.

Sincerely,

Faith Martineau

Faith Martineau
Executive Director, OPMP

Attachments: (1) State of Alaska Ambler Road Draft EIS Technical Comments Matrix
(2) State of Alaska Ambler Road Draft EIS Technical Comments – Supplemental

Ecc: Kip Knudson, GOV Director of State/Federal Relations (kip.knudson@alaska.gov)
Corri Feige, DNR Commissioner (corri.feige@alaska.gov)
Jason Brune, ADEC Commissioner (jason.brune@alaska.gov)
Doug Vincent-Lang, ADF&G Commissioner (douglas.vincent-lang@alaska.gov)

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adopt specific terms, conditions, and/or mitigation measures. To date, AIDEA has not submitted permit applications to any of the State agencies for the proposed Ambler Road project.

State of Alaska

Ambler Road Draft EIS

Technical Comments Matrix

ID	Document Title	Page No.	Row/Line No.	Comment
1	Chapter 1	ES-5 and ES-2; and other related sections of the EIS	Special Considerations Re: GAAR and What are the alternatives the BLM is considering	This section truncates the quote from Section 201(4)(b), implying that Congress only directed the Secretary to authorize a portion of the road crossing Gates of the Arctic. Section 201(4)(b) states "Congress finds that there is a need for access for surface transportation across the Western (Kobuk River) unit of Gates of the Arctic National Preserve (**from the Ambler Mining District to the Alaska Pipeline Haul Road**) and the **Secretary shall permit such access** in accordance with the provisions of this subsection." [Emphasis added]. BLM's Utility Corridor RMP also recognized this congressional intent by establishing the "Ambler Mining District, Dalton Highway access corridor [Section 201(4)(4) ANILCA]" (page 2-23, Proposed RMP/Final EIS, dated 9/27/89). This intent was also carried forward in the plan's Record of Decision, which states "The Prospect unit, as identified on map 2.1 in the Proposed RMP, would not be made available for State Selection. However, **as required by section 201(4)(b) of the ANILCA, the need for access to the Ambler Mining District is hereby recognized and will be provided upon application by the State of Alaska**, and that Subsistence hearings under section 810 of the ANILCA may be required during the processing of the application." (Emphasis added, page 3, Decision, dated 1/91). Section 201(4)(c) further clarifies that the authorized route includes the Kobuk Wild and Scenic River: "Upon the filing of an application pursuant to section 1104(b), and (c) of this Act for a right-of-way across the Western (Kobuk River) unit of the preserve, **including the Kobuk Wild and Scenic River,** the Secretary shall give notice in the Federal Register of a thirty-day period for other applicants to apply for access. [Emphasis added]. The EIS needs to accurately recognize the congressional intent in ANILCA applies to the full length of the road from the Ambler Mining District to the Haul Road, including the Kobuk Wild and Scenic River. We request the EIS fully quote these relevant sections of ANILCA and the Record of Decision for BLM's Utility Corridor RMP. We also request the description of the "no action" alternative (page ES-2), which is required under NEPA, but expressly not required under ANILCA Section 201(4), recognize these limits on BLM's discretionary authority to deny authorization of a right-a-way across BLM lands.
2	Chapter 1; repeated in Chapter 3	Exec Sum. Pg. ES-5; pg. 3-20 - 21	Para 4. 3-20 last para	The analysis for Alternatives A, B, and C describes the presence of discontinuous permafrost as a factor for evaluating each proposed road corridor. In looking at the corridor options and in the development of construction plans, DEC recommends that the impacts of permafrost be considered in the context of the potential use of materials containing naturally occurring asbestos (NOA). Please revise these sections to address the following: What are the long-term maintenance needs, and how may those lead to potential exposure pathways to NOA, which may require long term mitigation?

ID	Document Title	Page No.	Row/Line No.	Comment
3	Chapter 1; applies to Appendix H	ES-6	Paragraph 5	"This EIS does not discuss avoidance, minimization, or mitigation for impacts related to the development and operations of potential future mines because **details of that development are not sufficiently available at this time**." (Emphasis added). While this disclaimer is in reference to Appendix N, BLM should not be selective in applying the same rationale to its assessment of the potential impacts, which are described in Appendix H. The details of development are also not sufficiently available for analyzing potential impacts, which is based on currently available information venturing into speculation, while simultaneously ignoring potential mitigation measures that would avoid or minimize impacts associated with future mine development. While not the only issue, this significant omission represents a flaw in the cumulative impacts analysis provided in Appendix H.
4	Chapter 2	2-8; refers to Map 2-3	16	The land status maps referenced here, Map 2-3, depicts the BLM right of way stopping short of the Ambler Mining Belt. The right of way stops short of the south side of the Ambler River on BLM land and never reaches state land on the north side of the river. If the maps are correct, it appears BLM will have to issue a second right of way under Sec. 1323 of ANILCA, through another planning process to provide access to the Ambler Mining Belt. This issue is depicted throughout Volume 4; however, Map 2-3 (Page 3) and Map 2-4 (Page 4) highlight the issue. If this is a GIS issue, it needs to be resolved. Otherwise, the issue needs to be acknowledged in the Draft EIS as it does not meet the Purpose and Need of the plan.
5	Chapter 2	Map 2-3	N/A	Many rivers that are anadromous are not designated anadromous on this map, including the Kobuk R, Ambler R, Redstone R, Wesley Cr, Kogoluktuk R, Mauneluk R, Killak R, and Akpelik Cr. Please amend the map to correctly reflect which rivers are anadromous.
6	Chapter 2	2-8; refers to Map 2-4	24	The land status maps referenced here, Map 2-4, depicts the BLM right of way stopping short of the Ambler Mining Belt. The right of way stops short of the south side of the Ambler River on BLM land and never reaches state land on the north side of the river. If the maps are correct, it appears BLM will have to issue a second right of way under Sec. 1323 of ANILCA, through another planning process to provide access to the Ambler Mining Belt. This issue is depicted throughout Volume 4; however, Map 2-3 (Page 3) and Map 2-4 (Page 4) highlight the issue. If this is a GIS issue, it needs to be resolved. Otherwise, the issue needs to be acknowledged in the DEIS as it does not meet the Purpose and Need of the plan.
7	Chapter 2	Map 2-4	Page 4	Many rivers that are anadromous are not designated anadromous on this map, including the Kobuk R, Ambler R, Redstone R, Wesley Cr, Kogoluktuk R, Mauneluk R, and Killak R. Please amend the map to correctly reflect which rivers are anadromous.

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8	Chapter 2	Pg. 2-7 and MAPs 2-4, map 3-2		Material sites and Maintenance Facilities – the Draft EIS mentions the development of material sites that will support facilities and air strips that would be "long-term" maintenance facilities. On Alternative A., the airstrip, construction camp and material site appear to be located in an area with high potential for naturally occurring asbestos (NOA). The Draft EIS in other sections addresses the need for mitigation of potential fugitive dust impacts and special considerations for NOA materials. Long term mitigation efforts will be needed if the material sites and products used in the associated construction camp and airstrips contain NOA to prevent human exposures to NOA. Capping surfaces with non-NOA materials and long-term applications of palliatives for dust maintenance would be options for controlling emissions around facilities and at airstrips. (see Map 2-3 and 3-2).
9	Chapter 2	2-9	Bottom of 2nd paragraph	The statement: "No alternative would be expected to generate emissions of air pollutants, including dust, at levels that would approach or exceed the national ambient air quality standards [NAAQS]…" is unsupported. Please amend to, "No activities that would have the potential to exceed the NAAQS or AAAQS will be permitted."
10	Chapter 3	3-6		The construction plan states that fiber optic cable would be embedded in the road embankment but does not discuss how it would be routed over/under culverts and bridges. Because trenching or burying of the fiber optic cable could exacerbate permafrost thaw, like what has been seen along the Dalton Hwy in some areas, the Draft EIS needs to provide additional information regarding how proposed installation of the fiber optic cable will avoid impacts to permafrost.
11	Chapter 3	3-10	Para 3	Sufficient capping of road material would likely result in a lot of maintenance. Trucks and equipment with knobby tires would be hard wear and tear. AIDEA says it will perform geo-tech before choosing potential material sites but acknowledge that complete avoidance of NOA-bearing materials may not be feasible. DEC recommends that AIDEA share the results of the geo-tech and material site selection and coordinate with State and federal agencies before final development and approval of a dust management plan to address any issues related to the specifics of the material site selection and siting of facilities to ensure that public health is protected. The dust management plan should include a notice to employees of hazardous areas and mechanisms to prevent worker exposures.
12	Chapter 3	Map 3-6	Dietrich River and Koyukuk River	First, the river listed on the map between Coldfoot and Wiseman is the Middle Fork Koyukuk River; not the Dietrich River. The Dietrich River is not even displayed on the map. In addition, the river listed on the map just west of the previous correction is the North Fork Koyukuk River. The Koyukuk River is sourced at the confluence of the North Fork Koyukuk River and the Middle Fork Koyukuk River. (Orth, GNIS) This map needs to be revised to correct these errors.
13	Chapter 3	Map 3-6	Ambler River	The Ambler River is not identified on the map. Because the Ambler River serves as a major landmark near the end of the proposed routes, and is also a large river, this river should be labeled on the map.

ID	Document Title	Page No.	Row/Line No.	Comment
14	Chapter 3	Map 3-17		This map should be checked against the most recent version of the ADF&G Anadromous Waters Catalog and revised to correctly reflect known salmon spawning and habitat in the project area. For example, king salmon spawning habitat in the Middle Fork Koyukuk River is not documented on this map.
15	Chapter 3	3-20	⊓ 4, line 5	"There would be no mining within the beds of active streams." Many of the rivers crossed within the proposed Alternatives A and B have been determined navigable by the BLM and are State owned submerged lands. It is up to the State of Alaska to determine if gravel extraction permits for the beds of State-owned riverbeds will be issued.
16	Chapter 3	3-20		There is no discussion in the document regarding State owned navigable waters, and only addresses management by USACE and USCG. The State holds and ownership interest in many waterbodies that will be crossed by the proposed Alternatives A and B. The rivers that are navigable under the Equal Footing Doctrine, The Submerged Lands Act of 1953, 67 Stat. 29 (1953) (codified at 43 U.S.C. §§ 1301–1356a); The Alaska Statehood Act, § 6(m), 72 Stat. 343 (1959); and current court standards are the: Middle Fork Koyukuk River, North Fork Koyukuk River, Koyukuk River, Wild River, John River, Alatna River, Mauneluk River, Kogoluktuk River, Shungnak River, and Ambler River. Conflict in title resides over the bed of the Kobuk River at both Alternative A and B crossing areas. The State asserts that the Kobuk River is navigable and that there are State owned submerged lands within this area. The BLM maintains that the river is not navigable within this area.
17	Chapter 3	Text associated with Map 3-20, 3-21, 3-22		The lack of clarity regarding recent WAH use of mapped ranges, as described by ADF&G, affects the corresponding description of the affected environment and potential environmental impacts to wildlife habitat. These sections must be revised to reflect the best available data.

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18	Chapter 3	Map 3-20		The WAH range used in maps 3-20 through 3-22 reflect a historical perspective, and one that essentially precedes the widespread use of satellite collars. Radiotracking data from that period and some of the early deployments of satellite collars reflect a different distribution than we have seen since ~2002. Some of the pre-satellite radiotracking data suggest much more use of the eastern, or "peripheral" parts of the range than we have seen in more recent years, as caribou move their wintering ranges, presumably in response to multiple consecutive years of grazing. In the 1990's, use of the Nulato Hills was heavy, then the herd moved on to the Seward Peninsula, and more recently use of the North Slope is increasing during winter. In the 1980's, the EIS study area was used more frequently than it has been for the past 15-20 years. This historical perspective could be shown by using the range used in 3-20 through 3-22, then added to with more recent 5-year periods (new maps attached as separate documents). Better referencing needs to be done with regards to all the caribou maps. The sources of the data, and how the data were analyzed, and what caribou are represented (female caribou only?), time period of the data referenced, etc... is either unclear or entirely absent.
19	Chapter 3	Map 3-21		The WAH range used in maps 3-20 through 3-22 reflect a historical perspective, and one that essentially precedes the widespread use of satellite collars. Radiotracking data from that period and some of the early deployments of satellite collars reflect a different distribution than we have seen since ~2002. Some of the pre-satellite radiotracking data suggest much more use of the eastern, or "peripheral" parts of the range than we have seen in more recent years, as caribou move their wintering ranges, presumably in response to multiple consecutive years of grazing. In the 1990's, use of the Nulato Hills was heavy, then the herd moved on to the Seward Peninsula, and more recently use of the North Slope is increasing during winter. In the 1980's, the EIS study area was used more frequently than it has been for the past 15-20 years. This historical perspective could be shown by using the range used in 3-20 through 3-22, then added to with more recent 5-year periods (new maps attached as separate documents). Better referencing needs to be done with regards to all the caribou maps. The sources of the data, and how the data were analyzed, and what caribou are represented (female caribou only?), time period of the data referenced, etc... is either unclear or entirely absent.

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20	Chapter 3	Map 3-22		The WAH range used in maps 3-20 through 3-22 reflect a historical perspective, and one that essentially precedes the widespread use of satellite collars. Radiotracking data from that period and some of the early deployments of satellite collars reflect a different distribution than we have seen since ~2002. Some of the pre-satellite radiotracking data suggest much more use of the eastern, or "peripheral" parts of the range than we have seen in more recent years, as caribou move their wintering ranges, presumably in response to multiple consecutive years of grazing. In the 1990's, use of the Nulato Hills was heavy, then the herd moved on to the Seward Peninsula, and more recently use of the North Slope is increasing during winter. In the 1980's, the EIS study area was used more frequently than it has been for the past 15-20 years. This historical perspective could be shown by using the range used in 3-20 through 3-22, then added to with more recent 5-year periods (new maps attached as separate documents). Better referencing needs to be done with regards to all the caribou maps. The sources of the data, and how the data were analyzed, and what caribou are represented (female caribou only?), time period of the data referenced, etc... is either unclear or entirely absent.
21	Chapter 3	Map 3-23		The ranges presented in this map may be underestimated due to severe autocorrelation in the data. Please refer to the maps provided in supplement to the State's written comments, which illustrate ranges that may be more appropriate. Due to the large file size, supplemental information is available for upload via OneDrive.
22	Chapter 3	3-31	2nd paragraph	Toolik Research Station now has an IMPROVE and NADP site. Please update this section accordingly.
23	Chapter 3	3-31		Paragraph two on this page discusses the National Ambient Air Quality Standards (NAAQS). Please add references to the Alaska Ambient Air Quality Standards (AAAQS).
24	Chapter 3	3-31	4th paragraph	"The particulate 'mix' could…', this is better described using: 'The particulate matter could …' Please note that in summer, fugitive dust on roads is a major issue. A robust dust management plan is needed to mitigate potential impacts associated with fugitive dust.
25	Chapter 3	3-31	last paragraph	GAAR participated in the Interagency Monitoring of Protected Visual Environments Network, but the site has moved from Bettles to Toolik. Please update this section accordingly.
26	Chapter 3	3-32		Paragraph five on this page discusses the National Ambient Air Quality Standards (NAAQS). Please add the Alaska Ambient Air Quality Standards (AAAQS).
27	Chapter 3	3-32	Para 1-3	The climate section could address increased summer heat by degree days. The third paragraph discussed climate modeling predicting increased length of the fire season and wildfire patterns. Numerous studies and actual data show that fires are now more frequent and larger in size and heat intensity. Information on increased length of fire season and intensity could be added to this section.

ID	Document Title	Page No.	Row/Line No.	Comment
28	Chapter 3	3-33	First two paragraphs	This section indicates that fugitive emissions from heavy particles settle out near the road. Although large particles typically distribute close to the sides of roads, fine particles can be transported long distances. DEC would expect a mix of fine and coarse particles from construction and road activities. In the second paragraph on page 3-33, suggest adding "road maintenance" to the list of post-construction air pollution generating activities.
29	Chapter 3	3-33	2nd paragraph	The reference to reductions in CO emissions from vehicles in Fairbanks is irrelevant in this section. Vehicle emissions still contribute to air pollution. Specifically, heavy diesel equipment if not well maintained can emit substantial amounts of air pollution. Suggest deleting the sentence. Also, comparison of Fairbanks air quality to the project area makes little sense. As mentioned earlier the pollutant of concern is PM10 from unpaved roads. Fairbanks monitoring data is not collected near unpaved roads and therefore not representative of conditions in the project area.
30	Chapter 3	3-33	5th paragraph	Total suspended particulate (TSP) contains particles much larger than PM10. Typically, TSP is considered at least PM30, occasionally it is also used for PM50.
31	Chapter 3	3-33	6th paragraph	The monitor referenced in this paragraph has moved to Toolik. The distance is too large for any monitoring data to be used to gage impacts in the project area.
32	Chapter 3	3-34	4th paragraph	The discussion of potential impacts from NOA is vague and should be revised to include a brief description of how the BMPs are intended to avoid creating airborne NOA.
33	Chapter 3	3-35 to 3-36	Last para	This section provides minimal analysis supported by data. Overall emissions are not provided within this section, or those identified. That they are "highly localized" is of little concern because GHG emissions are contributed globally. Additional information on sequestration would be a helpful addition. In the GHG emissions projections the Draft EIS could include an estimate of melting permafrost emissions. There are numerous research studies that can assist in providing this type of information/data.
34	Chapter 3	3-69	Paragraph 1, Line 2	The wording here is too strong - "leading ADF&G biologists to predict a population decline during 2018. The section in Romanoff 2018 reads: "the population growth experienced between 2016 and 2017 has been curbed at least temporarily." A quote from Lincoln Parrett indicates that "It is likely the herd didn't grow during 2018, and probably remained stable or possibly declined." Neither of these appear to indicate a true prediction of a decline, simply an acknowledgement of the possibility. Please revise the language to accurately represent ADF&G findings.
35	Chapter 3	3-86	10	"…exploration activities would likely to continue." Should be "…exploration activities would likely continue."

ID	Document Title	Page No.	Row/Line No.	Comment
36	Chapter 3	3-87	Final paragraph	While the proposed routes would cross GAAR Preserve and Kobuk WSR lands, neither of these are managed for their wilderness values. In particular, Title VI of ANILCA did not identify any outstandingly remarkable values for the Kobuk River and wilderness is not a value or purpose identified in the Wild and Scenic Rivers Act. We request the following edit: The affected special designation lands would differ, and Alternatives A and B would cross GAAR Preserve and Kobuk WSR lands—managed for wild~~erness values, high~~ and scenic values~~, and~~ as well as backcountry recreation— while Alternative C would not
37	Chapter 3	3-95	Final paragraph	While the DEIS notes, "Alternative A would not pass through Wilderness …." it should identify the visual resource management class assigned to the BLM lands and the Preserve lands instead of the nearby designated wilderness. We request the following edits: *While ANILCA provided for passage through GAAR, management of these lands is the most sensitive to visual changes of any in the project area, particularly the Preserve lands~~designated Wilderness~~.*
38	Chapter 3	3-100	Paragraph 1, Line 2	"AIDEA has stated the proposed access road could alleviate [high levels of unemployment and low-income with high costs of living] through potential commercial access for affected communities."- Please describe how the road would alleviate the high levels of unemployment and low-income with high costs of living in the study area communities.
39	Chapter 3	3-101	Paragraph 2, Lines 5-6	"Increased economic benefits may decrease the number of food-insecure households but would also change the use of traditional foods." As written, this implies that households will harvest less as a result of increased income and time working. This conclusion appears to be reached without any basis for support, lacking a citation. Please revise to reflect that Wolfe's (2009) work on super-households indicates that there is a positive correlation between subsistence productivity and a household's earned monetary income - as income increases so does subsistence productivity.
40	Chapter 3	3-101	Paragraph 2, Lines 5-6	"Increased economic benefits may decrease the number of food-insecure households but would also change the use of traditional foods." In addition to the above comment, additional clarification may be needed to describe how development may affect access to subsistence resources and whether that is likely to change the use of traditional foods.

ID	Document Title	Page No.	Row/Line No.	Comment
41	Chapter 3	3.4.6 Environmental Justice	N/A - Agency Process	EPA defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." This is reinforced by CEQ guidance and presidential memo. In its role as the lead federal agency, BLM supports and achieves environmental justice objectives by: (1) Ensuring that minority and low-income communities can participate fully in the environmental review process associated with the agency's development of the Ambler Road EIS, (2) Analyzing potential impacts to human health and the environment for all potentially affected communities, as determined by resource use, proximity, or another appropriate metrics, with equal rigor, (3) Evaluating whether potential adverse impacts disproportionately affect minority/low-income communities, as compared to other potentially affected communities, and (4) Addressing disproportionately high and adverse human health and environmental impacts to minority/low-income communities. BLM conducted a 337-day scoping period, which is substantially longer than the minimum 30-day scoping period required by NEPA. Without commenting on whether the comment period was an appropriate length based on the scope and scale of the proposed project, the longer period provided additional opportunity for all members of the public to submit comments during scoping. BLM has held public meetings in potentially affected communities and in hub cities during scoping and during the Draft EIS comment period and engages in Section 106 consultation as well as government-to-government consultation with federally recognized tribes. The Draft EIS provides a list of potentially affected communities and identifies all but Fairbanks, Wiseman, and Bettles as environmental justice communities per Appendix F, Table 13. Chapter 3 appears to present an appropriate level of analysis of both the affected environment and potential environmental consequences associated with the proposed project for the list of potentially affected communities for each resource. BLM's evaluation whether potential adverse impacts may disproportionately affect minority/low-income communities, as compared to other potentially affected communities, should be described in Section 3.4.6, Environmental Justice. This critical component is currently missing from the relevant section. Please revise to meet and reflect the purpose of this section.

ID	Document Title	Page No.	Row/Line No.	Comment
42	Chapter 3	Pg. 3-105; 3.4.6 Environmental Justice	Paragraph 1, Lines 1-4	Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects... on minority populations and low-income populations." Rather than providing the actual language of EO 12898, the Draft EIS attempts to synthesize this direction with the following statement, "Executive Order 12898 directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations" (emphasis added). This minor change reflects an inaccurate interpretation of the direction provided by the EO. In other words, a primary purpose of addressing environmental justice in the EIS is to evaluate and determine whether the proposed project will have disproportionately high and adverse human health or environmental effects on minority/low-income communities. Instead the Draft EIS foregoes the necessary analysis and presumes, without basis, that disproportionately high and adverse impacts must be present. This faulty framing leads to an inadequate assessment and represents a deficiency in the Draft EIS.
43	Chapter 3	Pg. 3-105; 3.4.6 Environmental Justice	Paragraph 1, Lines 5-11	The description of how BLM developed its list of environmental justice communities appears to be consistent with the existing guidance to federal agencies. Please list all the environmental justice communities in the study area instead of only those communities that did/do not meet the criteria.
44	Chapter 3	Pg. 3-105 thru 3-106; 3.4.6 Environmental Justice	Inclusive	The communities of Bettles and Evansville are geographically adjacent to one another; Evansville meets the criteria to be considered an environmental justice community while Bettles does not. (Appendix F, Table 13.) The proximity of the two communities helps to clearly illustrate the problem with the Draft EIS in addressing environmental justice concerns. If the proposed project would result in disproportionately high and adverse human health and environmental impacts to Evansville when compared to the severity of potential impacts to Bettles, then the project may present environmental justice concerns that should be addressed, as appropriate. The Draft EIS does not reflect disproportionate impacts and rather provides numerous examples, including in the sections related to subsistence and human health, of how potential impacts to Bettles and Evansville are anticipated to be similar. Again, this example is being used for illustrative purposes only and this comment should not be misconstrued as reducing the study area to two communities. In addition, none of the content in this section represents new analysis based on information specific to identifying and addressing environmental justice concerns. The discussion of environmental consequences asserts that there will be numerous adverse impacts without providing any analysis, justification, or support for the conclusions. Please revise accordingly.

ID	Document Title	Page No.	Row/Line No.	Comment
45	Chapter 3	3-109	Paragraph 2, Line 6	Appendix F Table 15 indicates that between 77 and 100% of households attempted to harvest wild resources. Please revise this section to clarify whether the statement "between 75 and 100 percent of households report participating in subsistence activities" is intended to refer to the percentage of households that attempted to harvest wild resources.
46	Chapter 3	3-109	Paragraph 3, Line 4	"Nearly half of households reported attempting harvests of moose." Would suggest "reported attempting to harvest moose"
47	Chapter 3	3-109	Paragraph 4, Line 7	This sentence indicates that caribou contribute a significant portion towards to total harvest in White Mountain- this is incorrect. The only comprehensive study occurred in 2005-2006. Caribou contributed an estimated 6,825 edible lb. or 8.8%
48	Chapter 3	3-118, 3-119	Paragraph 4, 1	A more applicable source of information on the impacts of roads to rural subsistence communities can be found in: Magdanz, James S., Joseph M. Little, and David S. Koster. 2019 The Persistence of Subsistence: Wild Food Harvests in Rural Alaska, 1983-2013. Social Science Research Network 2779464. This study quantifies thoroughly quantifies the impacts of roads on rural subsistence economies in terms of harvest and changes to income for the residents of rural communities. Statistical analysis shows a decrease in subsistence harvests in communities impacted by roads with no significant increase in overall income. It also discusses the history of access limits to roads. It is more applicable to this discussion as it discusses changes in rural community subsistence economies brought about by road construction, rather than comparing road-system and rural community harvests.
49	Chapter 3	3-118	Paragraph 4, Line 12	"While the project may not reduce subsistence harvests to levels seen along other road-connected communities in the state, the combination of reduced resource availability, decreased user access, increased income (for some communities), and increased access to commercial goods (for some communities), would likely alter subsistence harvesting patterns across the region and affect overall subsistence harvests for certain communities." As mentioned earlier, increased income correlates positively with increased subsistence productivity. See Wolfe et al. 2009 for a discussion of super-households "The "Super-Household" in Alaska Native Subsistence Economies". Use of the term "alter" is ambiguous and inadequately describes the nature of the changes. Please revise to reflect that income change patterns may lead to potentially increased harvest and describe how potential positive and negative impacts are anticipated to effect subsistence overall.
50	Chapter 3	3-116	Paragraph 4, Lines 2-3	Salmon importance should also be mentioned for Ambler (see 2012 comprehensive). Also, Kobuk should be mentioned as being impacted by fish availability.
51	Chapter 3	52 and 35	2nd paragraph	Scanlon 2009:7—delete the "7"
52	Chapter 3	44	1866	Arctic grayling leave their spawning areas after spawning, just like sheefish and whitefish. The sentence "spawning habitat is not limited by winter conditions" is unnecessary and confusing.

ID	Document Title	Page No.	Row/Line No.	Comment
53	Chapter 3	57	Last sentence	Most species of fish are sensitive to changes in pH. Please revise to "…whitefish, including sheefish, and salmon may be most vulnerable…"
54	Chapter 3	3-94	3rd paragraph	The 1986 Central Yukon Area plan identified most of the project area as unclassified Visual Resource Management (VRM) Classification, except along the Dalton highway a VRM Class III and IV were assigned. VRM Class IV, allows for management activities that may dominate the viewshed, is the next level of VRM Class restriction above the unclassified level. Class IV. The objective for this class is to provide for management activities that require major modifications of the existing character of the landscape. The level of change to the characteristic landscape may be high. These management activities may dominate the view and be the major focus of view attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements. The DEIS needs to analyze the visual effects of the alternatives on VRM unclassified lands and VRM Class III and IV lands.
55	Chapter 3	3-95	Final paragraph	Alternative A impacts appear to focus on the visual impacts to Gates of the Arctic Park and Preserve, which is already addressed in the EEA. Please revise to evaluate the visual impacts of the alternatives on VRM unclassified lands and VRM Class III and IV lands that BLM manages instead.
56	Chapter 3	3-96	1st paragraph	Alternative B impacts appear to focus on the visual impacts to Gates of the Arctic Park and Preserve, which is already addressed in the EEA. Please revise to evaluate the visual impacts of the alternatives on VRM unclassified lands and VRM Class III and IV lands that BLM manages instead.
57	Chapter 3	3-122		"Impacts to **historic properties** are being addressed through the Section 106 process by means of the Programmatic Agreement…" Impacts to cultural resources that are not eligible for listing in the National Register of Historic Places are not addressed in the Section 106 process as not every cultural resource qualifies for the National Register program even though they may be important to a local community. Please describe how BLM considered potential impacts cultural resources that are not eligible for the National Register of Historic Places.
58	Chapter 3	3-122		Other than a brief mention that NEPA cultural resources include a larger category, the environmental consequences section only discusses the use of a PA to resolve adverse effects to historic properties.
59	Appendix A	A-1 and A-2		The road cross-section on these pages does not provide any detail on the location or the method of installation for the fiber optic cable. Please provide more detailed information about installation and specifically how AIDEA proposes to avoid and minimize potential impacts (such as permafrost thaw).

ID	Document Title	Page No.	Row/Line No.	Comment
60	Appendix B	B-2, Table 1	ADNR ROW Permit	The statutory reference for the ROW permit for state land should be AS **38.05.850**. AS 38.35.050 is for pipeline ROWs. AS 38.05.550-565 is for material sales, not road ROWs.
61	Appendix B	B-2, Table 1	DNR Material sales permit	The statutory reference for material sites/sales on state land is AS 38.05.550-565. It is listed in the box for ROWs but should be listed for material sales. AS 38.05.810(a) should not be referenced because it refers to the public and charitable disposal of land or resources for public projects and is therefore not applicable to the proposed Ambler Road Project, which is a private industrial access road.
62	Appendix B	B-2, Table 1	DNR Land Use Permits	Recommend adding an additional row within the column for "key permit, approval, or other requirements": **Land use permits** for workcamps, staging areas, airstrips, etc. proposed outside the construction ROW on state land. Statutory authority AS 38.05.850.
63	Appendix C	C-2		The information on this page does not provide information on the proposed footprint of the fiber optic cable. Will it be buried in the roadbed or installed in an adjacent area? Will it be installed at the pioneer road stage or at a different stage of the road construction? Please provide more detailed information about installation and specifically how AIDEA proposes to avoid and minimize potential impacts (such as permafrost thaw).
64	Appendix D	D-4		Table 5 on this page describes oil spills under pressure. It is not clear how spills under pressure would occur in the context of this project. Spills under pressure could be possible with an oil and gas project, but not with a road construction project. Please explain and/or revise accordingly.
65	Appendix D	D-10	Table 13	Add Ambler River to the table as the project stops at its left bank.
66	Appendix D	D-12		Table 16 identifies DNR listed wells. Please note that DNR's database is not intended to serve as an authoritative database for the active drinking water sources. Please use the information available from ADEC's database, found at http://dec.alaska.gov/das/gis/apps, or at http://data-soa-adec.opendata.arcgis.com/.
67	Appendix F	F-19 & 20	Table 15	The table states at the bottom that no comprehensive survey data exists for the community of Nenana. This is incorrect. While the data is not yet on the CSIS, the report is available - Brown, C.L. and M.L. Kostick, editors. 2017. Harvest and Use of Subsistence Resources in 4 Communities in the Nenana Basin, 2015. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 429, Fairbanks
68	Appendix F	F-10	Table 8	State river files indicate the typical raft on the upper Alatna River is 11 to 14 feet. This is not a "small" raft. Please remove "small" from the description of typical craft in column titled "Typical Craft".

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69	Appendix F	F-10	Table 8	State river files indicate the Ambler River can support craft much larger than canoes and kayaks. While the Alaska.org website, from where the information presented in the table appears to originate, lists canoes and kayaks, both the description on the website and video show outdoor recreationalists packrafting the upper Ambler River. Access appears to be conducted primarily by Piper Super Cub, which has limited carrying capacity. It is likely that the aircraft's carrying capacity to be the variable that limits craft size, not the carrying capacity of the Ambler River. The BLM determined the Ambler River navigable by river boat with outboard motor and two-way traffic to the north township line of Township 22 North, Range 9 East, K.R.M., at approximately RM 51. The same online sources identify Ulaneak Creek, located at approximately RM 56, as the lower put in location. The upper put in location appears to be near the confluence of the Ambler River and an unnamed stream within Section 11, Township 25 North, Range 10 East, K.R.M., near RM 75. Only the upper 12 river miles are within GAAR. The characteristics of the Ambler River are not the limiting factors for canoe and kayak use; but the access by super cub is the limiting factor. The table misconstrues this in the current presentation of the information. Please revise accordingly.
70	Appendix F	F-23 & F-24	Table 17	The source of this table is listed as Appendix L Table-39. This is not the source of the data as Table 39 is the "Relative importance of subsistence resources based on selected variables" for Galena.
71	Appendix F	F-24	Table 17	Table 17 indicates that caribou composed 55.8% of the total estimated harvest in White Mountain (10,985 lb.). This is incorrect. The only comprehensive study occurred in 2005-2006. Caribou contributed an estimated 6,825 lb. of the total 77,172 lb. total estimated harvest.
72	Appendix F	F-19 & F-20	Tables 14 & 15	In the text of chapter 3 (pg. 3-107), it says that the 27 primary study communities are listed in Table 14. Table 14 has a total of 53, they may be ranked in order, however it is important to point that out to the reader. Table 15 is missing 6 of the 25 study communities it states is represents (including the community of Shungnak). This may have impacts to analysis if some of the communities missing were missed during written analysis
73	Appendix G	G-1	4th paragraph	None of the Alternatives are routed through a right of way avoidance or exclusion area in the existing Resource Management Plan for the Area. It is our understanding that BLM must approve the right-of-way under 43 CFR 204.26 if it is consistent with the existing land use plan, i.e., the 1986 Central Yukon Area Plan, unless there are issues related to threatened or endangered species or other laws. The DEIS needs to acknowledge that all three Alternatives for the right-of-way are consistent with the existing land use plan, do not conflict with any Right-of-Way Avoidance or Exclusion Areas, and the effect of this on the approval process.

ID	Document Title	Page No.	Row/Line No.	Comment
74	Appendix H	H-7; repeated throughout Section 3	4th paragraph; inclusive	One of BLM's assumptions in describing a hypothetical mining development scenario is that all necessary approvals and permits, with corresponding mitigation measures, will be in place; however, in many instances the effects analysis disregards the numerous regulatory controls that are in place (ex: predicting a catastrophic tailings dam failure, which has never occurred under the State's rigorous permitting process for such structures here in Alaska, on pg. H-37); presumes non-compliance with permit conditions without reasonable basis (ex: the listed references, such as Woody et al. 2010, that BLM uses as justification for this presumption are not appropriate sources because they expressly examine historical mining in other parts of the U.S., which is not analogous to or an accurate predictor of [1] modern mining development [2] under the existing regulatory framework [3] in Alaska, on pg. H-38); and fails to consider effective mitigation measures and adaptive management techniques (ex: the authors' overreliance on Kuipers et al. 2006 leads them to conclude that all mitigation measures are inadequate for managing water quality, on pg. H-46). Please revise so that analysis describes potential impacts associated with potential future mine development in the Ambler Mining District, instead of drawing conclusions that appear to be based on mine development in Utah in the early 1900s or some other similarly inapplicable scenario.
75	Appendix H	H-7	Feasibility Studies and Permitting	The second paragraph in this section has duplicative introduction sentences. This section should be divided up in order to provide more clarity and detail on the potential permitting process and requirements for any proposed mining actions. Additionally, the section should be revised to clearly reflect that prior to any proposed mining action, the company would be required to provide a Financial Assurance to the State for the Reclamation and Closure of the mine.
76	Appendix H	H-8 & H-9	Development - Open Pit vs Underground Mine	The primary determining factors of a company deciding on an open pit vs an underground operation tend to be the geology of the deposit and the economics of the deposit in combination, not just the depth of the ore body. Some underground mines operate in relative proximity to the surface because the ore is narrowly confined and of sufficient enough grade that it is more economic.
77	Appendix H	H-13	Tailings Disposal	This section discusses the potential for tailings to be disposed of either via submersion in a tailings lake or being used as back fill material. Another option that is commonly used in practice dependent on the volume of material being mined and the type of operation is a dry-stack tailings disposal. Additionally, this section specifies that the water from behind the dam and mined areas is likely to be considered ARD based on the geology of the area. This may not necessarily be the case for tails; the recovery of the metals from the deposit would necessitate the removal of sulfides. This beneficiation process will alter the ARD potential of any final tails and would require further studies to determine whether it would be ARD over a long timeframe.

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78	Appendix H	H-15	Reclamation & Closure	This section should add a discussion that any Reclamation that occurs on a mine must at a minimum meet the State's requirements for Reclamation established under AS 27.19 and 11 AAC 97. This would include the requirements of the company to provide a Financial Assurance that the reclamation will be completed. In conjunction with the Permitting Section, it should be discussed that all Reclamation and Closure plans, if approved by the State, are reviewed at a minimum of every 5 years.
79	Appendix H	H-15	Reclamation & Closure	There is a bullet point that specifies that waste rock would be regraded to approximately a 3:1 slope. While a 3:1 slope may be ideal, the standard would be to regrade the slope to a stable slope, not necessarily 3:1.
80	Appendix H	H-16	Reclamation & Closure	A bullet point on here specifies that 'mobile or stationary equipment would be… placed in the landfill for final disposal.' This is typically only done if it is not economic for the equipment to be removed or sold at closure.
81	Appendix H	H-16	Long-Term Monitoring	This section should include some additional details that mining companies either continue to provide a financial assurance for conducting the long-term care and maintenance of the mine site or they may establish and fund a Mine Trust to perform this long-term care and maintenance.
82	Appendix H	H-19	Transportation	Table 2-5 reproduces the same data that is presented in Table 2-6. I would recommend deleting Table 2-5 unless it is meant to call out specific information.
83	Appendix H	H-21	Transportation	Table 2-10 has an assumed mine development for the district that includes the Sun and Smucker deposits. This assumption is highly speculative. There is too little information to characterize development of one or both of these deposits as reasonably foreseeable.
84	Appendix H	H-22	Transportation	Table 2-11 lists Bornite as having an open pit mining method, however earlier in this document (on page H-3 & H-4), Bornite is listed as being a combination of open pit and underground mining based on the two mineralized zones.
85	Appendix H	H-24; repeated in H-74	Line 24; Line 16	States that AIDEA has proposed that under their ROW grant "individual miner and recreational miner would not be authorized to use the road." Later (p. H-74) this section states that "it is unclear whether the road would allow access to small mining claims." Is there a difference between an individual miner and those who would access small mining claims? The document seems to say AIDEA proposes no access for small miners, but BLM's current language makes it unclear if individuals accessing small mining claims will be allowed to use the road. Please revise to clarify.
86	Appendix H	H-30	Line 28	The correct identifier is Public Land Order 5150, not 510
87	Appendix H	H-36		Paragraph two on this page discusses the potential environmental impacts of the fiber optic cable install, given the recent problems with a previous fiber optic cable installation adjacent to the Dalton Highway. Please provide more detailed information on how potential environmental impacts (such as damage to the permafrost and soils in this area) will be avoided, minimized and mitigated.

ID	Document Title	Page No.	Row/Line No.	Comment
88	Appendix H	H-36	Hazardous Waste	This section references the risks addressed in the Donlin Gold EIS as a similar risk to any potential mining project. Specifically, it mentions spill risk associated with diesel fuel, LNG, mercury or cyanide used in ore processing. While a potential mine in the region may use some of these chemicals in their processing method, they may not necessarily use all the same chemicals. As an example, in the 2018 Arctic NI43-101, Mercury is not listed as a chemical anticipated to be used in the ore recovery process.
89	Appendix H	H-36-H-37	Hazardous Waste	The final sentence in this statement implies that a dam failure would occur. While there may be historical incidents of dam failures in other jurisdictions, Alaska's current permitting regime accounts for the design and long-term care and maintenance of any dam related facility.
90	Appendix H	H-38	First paragraph	This section discusses the National Ambient Air Quality Standards (NAAQS). Please add the Alaska Ambient Air Quality Standards (AAAQS).
91	Appendix H	H-39	Last sentence2nd paragraph	This statement is not supported. Please amend to, "No activities that would have the potential to exceed the NAAQS or AAAQS will be permitted."
92	Appendix H	H-40	15	Sentence in 2nd paragraph should be broken into two with the second starting with "Passage of ANILCA".
93	Appendix H	H-40	18	Awkward, unclear sentence. With passage of ANILCA and establishment of GAAR, which has allowed for the protection of wetlands and vegetation; wildfires; wildfire suppression; and effects from climate change—it is unclear if with the establishment of GAAR wildfires are suppressed or not and what the relationship of GAAR is to climate change.
94	Appendix H	H-40	Last sentence	"Impacts to wetlands within mine footprint impacts—delete last "impacts" —considered a permanent impact—there is no mention of future reclamation efforts that would alleviate these impacts.
95	Appendix H	H-45	Footnote	Given the importance of the hyporheic zone to stream ecology, perhaps add an additional, short sentence "Hyporheic zones are important in stream nutrient cycling, regulation of temperature, and provide unique habitats". For example, groundwater exchange in hyporheic zones can help keep fish eggs from freezing in Alaska during the coldest part of winter and provide winter habitat.
96	Appendix H	H-44 thru H-49	Fish & Amphibians	This section contains poor analysis. On page H-46, there is a sentence "It is difficult to quantify the impact that future mines may have on fish and aquatic habitat given that a specific mine proposal is not available," followed by an attempt to quantify potential impacts from mining based on reports that have tenuous connectivity to any potential mining project. A solution to this would just be to stop after the first acknowledgement in the text that any future mining action would require its own EA/EIS. As it is written, the information is too speculative to provide any meaning or substance.

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97	Appendix H	H-46	7	"Intense biochemical activity" in the hyporheic zone seems awkward. Perhaps incorporate some language suggested above.
98	Appendix H	H-46	Fish & Amphibians	This section has a discussion on metal and mineral rich runoff from acid mine drainage potentially impacting the environment. This section fails to acknowledge that under 11 AAC 97.240, an operation must reclaim in a manner that either prevents AMD or prevents the offsite discharge of AMD.
99	Appendix H	H-47	2nd paragraph	Northern pike, not just "pike"
100	Appendix H	H-48	Last sentence	Misspelling, should be Taube not Taub
101	Appendix H	H-48	Fish & Amphibians	This section presents the claim that hard rock mining would reduce essential fish habitat and potentially degrade water quality and recuse EFH and biodiversity as a fact. It further makes a statement that mitigation measures are not ensured to be fully effective and that there is difficult enforcement of these rules. These statements appear to be made with not much in backing to support them. Each proposed mine would be required to evaluate any EFH impacts and show how they have avoided, minimized and mitigated for those impacts. Several of the currently active mines operating in the State have established or enhanced fish habitat by either the creation of habitat and/or improving the water quality in the waterways from their pre-existing conditions.
102	Appendix L	L-147	Table 41	Percentage of total harvest contributed by caribou is incorrect for White Mountain 2005-2006. Residents harvested an estimated 6,825 lb. of caribou. That divided by the total estimated harvest of 77,172 is 8.8% not 8.1%
103	Appendix L	L-7	Paragraph 4	The discussion of the importance of subsistence in rural communities with a high cost of living would benefit from a discussion of "super-households" as mentioned in Wolfe 2009. While subsistence is of vital priority to all rural residents, 30% of households take 70% of the total estimated harvest on average. These are most often households with good levels of income who redistribute wild resources throughout the community in the form of sharing. While lack of access to subsistence resources for lower income households can be devastating, this is also due to high harvesters (with often higher income) having less access to resources that they harvest to support themselves, family members, and the community as a whole. This section would benefit from a discussion of the role of income in wild food production, which is positively correlated.
104	Appendix L	L10- L19	Table 2	This table is confusing- what differentiates "harvest data time period" and "timing of subsistence time period"? In some cases, the "harvest data time period" matches "timing of subsistence time period", and in other cases there is N/D even though the study year is known. Currently it is unclear what sets these categories apart. If there are cases where the information is missing, it needs to be added

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105	Appendix L	L-17	Table 2	Mentioned previously, but there is comprehensive survey data for Nenana for 2015 which is missing from this table- Brown, C.L. and M.L. Kostick, editors. 2017. Harvest and Use of Subsistence Resources in 4 Communities in the Nenana Basin, 2015. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 429, Fairbanks
106	Appendix L	L-18	Table 2	The wrong harvest data time period is shown in Table 2 for Noorvik and Shungnak. Braem et al. 2018 should be 2012-2014.
107	Appendix L	L10-l9	Table 2	Table 2 is missing data sources for two of the 27 study communities. While there is no data for Livengood, Selawik and Rampart have not been included and there are studies available (several for each). This may impact written analysis if these communities were not included in the write-up
108	Appendix L	L10-19	Table 2	Table should have a reference to the link of ADF&G Division of Subsistence Community Subsistence Information System: https://www.adfg.alaska.gov/sb/CSIS/ and any other places that this data may have been pulled from. All up to date data is made publicly available at this link. Occasionally data is updated after hard copies of technical reports are published and the CSIS should be referenced instead of technical reports for harvest data. Include a footnote about which communities have not had comprehensive subsistence surveys completed.
109	Appendix L	L22-L33	Section 5.1.1	Subsistence Use Areas Map – Clarification is needed that these are just areas that have been documented during various research efforts and do not encompass all areas used by subsistence users. Most studies are one-year snapshots of land use patterns, which can and do vary year to year. Years for which there are available data should be noted as a footnote on each map
110	Appendix L	L-35	Figure 1	"Table 2" is identified as the source of the data for this figure. Given the high number of sources in the table, specific references would be helpful. Is this an average of all comprehensive surveys in each community? Sources could be better explained for clarity and prevent confusion. Please revise accordingly.
111	Appendix L	L-36	Figure 2	Given the high number of sources in the table, specific references would be helpful. Is this an average of all comprehensive surveys in each community? Sources could be better explained for clarity and prevent confusion. Please revise accordingly.
112	Appendix L	L-37	Figure 3	Given the high number of sources in the table, specific references would be helpful. Is this an average of all comprehensive surveys in each community? Sources could be better explained for clarity and prevent confusion. Please revise accordingly.

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113	Appendix L	L-38, 39	Table 5	It appears that the % composition of harvest is either taken from the only available comprehensive for a community, or an average of all comprehensives. The per capita, total harvest, etc. seem to be an average of all studies. Is this correct? As previously stated, citing Table 2 is too broad, readers/reviewers need to know which specific sources of data are used to populate this table. Please revise accordingly.
114	Appendix L	L-45, 46	Section 5.2.1	Subsistence Use Areas Map – It needs to be made very clear that these are areas that have been documented during various research efforts and do not encompass all areas used by subsistence users. Most studies are one-year snapshots of land use patterns, which can and do vary year to year. Years for which there are available data should be noted as a footnote on each map.
115	Appendix L	L-57 through L-60	Entire section	As mentioned above, specific sources of data used should be included for each figure and table. Citing Table 2 is too broad. Exactly which sources of data are used and how are they used? It appears that the % composition of harvest in Table 12 is either taken from the only available comprehensive for a community, or an average of all comprehensives. The per capita, total harvest, etc. seem to be an average of all studies. Is this correct? As previously stated, citing Table 2 is too broad, readers/reviewers need to know which specific sources of data are used to populate this table. Please revise accordingly.
116	Appendix L	L-65 through L-85	Entire section	Subsistence Use Areas Map – It needs to be made very clear that these are areas that have been documented during various research efforts and do not encompass all areas used by subsistence users. Most studies are one-year snapshots of land use patterns, which can and do vary year to year. Years for which there are available data should be noted as a footnote on each map.
117	Appendix L	L-87 through L-92	Entire section	As mentioned above, specific sources of data used should be included for each figure and table. Citing Table 2 is too broad. exactly which sources of data are used and how are they used? The % composition of harvest in Table 18 is either taken from the only available comprehensive for a community, or an average of all comprehensives. The per capita, total harvest, etc. seem to be an average of all studies. Is this correct? As previously stated, citing Table 2 is too broad, readers/reviewers need to know which specific sources of data are used to populate this table. Please revise accordingly.
118	Appendix L	L-100 through L-109	Entire section	Subsistence Use Areas Map – It needs to be made very clear that these are areas that have been documented during various research efforts and do not encompass all areas used by subsistence users. Most studies are one-year snapshots of land use patterns, which can and do vary year to year. Years for which there are available data should be noted as a footnote on each map.

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119	Appendix L	L-111 through L-113	Entire section	As mentioned above, specific sources of data used should be included for each figure and table. Citing Table 2 is too broad. The % composition of harvest in Table 29 is either taken from the only available comprehensive for a community, or an average of all comprehensives. The per capita, total harvest, etc. seem to be an average of all studies. Is this correct? As previously stated, citing Table 2 is too broad, readers/reviewers need to know which specific sources of data are used to populate this table. Please revise accordingly.
120	Appendix L	L-113	Table 29	As mentioned earlier, there is comprehensive survey data for Nenana for the 2015 study year- Brown, C.L. and M.L. Kostick, editors. 2017. Harvest and Use of Subsistence Resources in 4 Communities in the Nenana Basin, 2015. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 429, Fairbanks
121	Appendix L	L-116 through l-25	Table 29	Subsistence Use Areas Map – It needs to be made very clear that these are areas that have been documented during various research efforts and do not encompass all areas used by subsistence users. Most studies are one-year snapshots of land use patterns, which can and do vary year to year. Years for which there are available data should be noted as a footnote on each map.
122	Appendix L	L-131 through L-133	Entire section	As mentioned above, specific sources of data used should be included for each figure and table. Citing Table 2 is too broad. The % composition of harvest in Table 35 is either taken from the only available comprehensive for a community, or an average of all available comprehensives. The per capita, total harvest, etc. seem to be an average of all studies. Is this correct? As previously stated, citing Table 2 is too broad, readers/reviewers need to know which specific sources of data are used to populate this table. Please revise accordingly.
123	Appendix L	L-138	Paragraph 2, Lines 4-5	Kobuk should be added to this list. They have an average per capita harvest of 147 lb. and are very close to the study area.
124	Appendix L	L-141 and L-144	Table 41	There is missing data from this table- there is large game harvest information for Koyuk and Buckland from 2016-2017 (Gonzalez, Mikow, and Kostick 2018)
125	Appendix L	L-162		Throughout the document, there are references to changes in caribou abundance and access. There should be more of an explicit distinction between the two, and a more explicit explanation for how access and local abundance (independent of herd-level abundance) might change. For example, in L-162, there is reference to changes in migration patterns that is vague. While it is appropriate to make comparisons to the Central Arctic Herd, and perhaps even the 40-mile and Nelchina herds with respect to long-term continuation of migratory patterns and access to different parts of the range, it is also appropriate to talk about the potential short term effects of reductions in access due to avoidance of the road and even the potential for a "caribou shadow" effect.
126	Appendix L	59	3rd paragraph	Dolly Varden are a char, not a trout. Delete the word trout and take away the parenthesis.

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127	Appendix L	119	3rd paragraph	How does strong social and familial ties with Stevens Village alter harvesting patterns? Please clarify.
128	Appendix M	2		ANILCA Section 810 does not require an analysis of cumulative impacts. Please appropriately cite BLM policy as the basis for analyzing cumulative impacts.
129	Appendix M	14	B.3.1.3	Sheefish spawn on the mainstem Kobuk River and not the Reed River tributary. Please revise sentence to say, "Alternative B would place a river crossing on the Reed River approximately 7 miles from sheefish spawning habitat on the mainstem Kobuk River".
130	Appendix M	20	B.5.1.4 ANILCA	The document states "The establishment of Gates of the Arctic National Park and Preserve (GAAR) in the 1980s also affected access to and use of traditional harvesting areas for residents of nearby communities within the northeastern portion of the project area (Watson 2018). Please explain. For example, the NPS does not recognize the use of ATVs as a method of access traditionally employed in GAAR for subsistence use, as authorized in ANILCA Section 811; therefore, local residents' ability to use ATVs to access subsistence resources in GAAR was curtailed in 1980. This is a negative impact that continues today, except along specific easements authorized by NPS as a result of the subsequent Anaktuvuk Pass land exchange.
131	Appendix N		1.2.4	When issuing a ROW grant, the Realty Services Section generally includes a stipulation requiring the applicant/permittee to provide as-built drawings of the road within 90 days of completion. We recommend that as-builts be filed in the State Recorders Office. If recording these as-builts is not an option, then please include an alternative stipulation that requires the applicant/permittee to provide the as-builts to Realty Services for any project elements on lands that are State topfiled and/or selected.
132	Appendix N	2.2		Realty Services considers the potential BLM mitigation measure, in the form of a bond, to be a necessary stipulation of the ROW grant. This stipulation would ensure complete restoration of the Ambler Road project across areas currently managed by BLM that are State topfiled/selected lands.
133	Choose an item.	Map 3-24		This map is missing and should be amended to include State topfiled lands within and surrounding the proposed Ambler Road rights-of-way at Dalton Highway mileposts 60 and 161. These lands are within the PLO 5150 corridor. As Priority 1 lands, the State has requested that PLO 5150 be lifted and the land conveyed to the State multiple times. We are taking this opportunity to, once again, communicate to BLM that the State has requested, and continues to request, that action be taken to address these high priority lands within PLO 5150.

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134	Appendix N	N-8		Section 3.2.3 on this page discusses hazardous waste. Please change the reference from NPDES to APDES because the State of Alaska received full delegated authority to conduct this permitting program years ago.
135	Appendix N	N-15	3.2.7 1)	Because road dust will need to be controlled, especially in areas with NOA, BLM should require an enforceable dust control plan that would apply to maintenance as well as construction. In Design feature #3, this design feature needs to include airstrips, material sites for long term maintenance and construction camps. DEC recommends that all construction camps be located in areas that avoid potential exposure to asbestos and/or that camps be constructed in a manner to ensure asbestos material does not result in human exposures. This is important because the DEIS states that NOA-bearing material may be used when no other close resource is available.
136	Appendix N	N-15	3.2.7 3)	This section mentions the ADOT&PF interim guidance from 2012. Specify how is this different from the final NOA regulations from 2015 and the asbestos BMP on the DOT&PF website http://dot.alaska.gov/stwddes/desmaterials/noa.shtml
137	Appendix N	N-25	#9	It is written that the "terms and conditions are applicable to locations where the proposed project area crosses state or federal owned land." Because BLM's authority is limited to federally managed lands, the terms and conditions cannot be applicable to locations where the proposed project area crosses State land. Please revise accordingly.
138	Maps	Page 18	Map 3-2	It would be helpful to have the material sites, construction camps and other structures overlaid on the NOA map to see the potential for high impact in relation to the planned activities.